Item No. 210S
Flexible Base

210S.1 Description

This item governs furnishing and placing a crushed stone base course for surfacing, pavement, or other base courses. “Flexible Base" shall be constructed on an approved, prepared surface in one or more courses conforming to the typical sections and to the lines and grades indicated on the Drawings or established by the Engineer or designated representative.

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text and accompanying tables, the inch-pound units are given preference followed by SI units shown within parentheses.

210S.2 Submittals

The submittal requirements of this specification item may include:

A. Source, gradation and TxDoT test results for the crushed limestone material,

B. Notification that the crushed limestone is completed and ready for testing, and

C. Field density test results for in-place compacted flexible base,

210S.3 Material

A. Mineral Aggregate

The material shall be crushed argillaceous limestone meeting the requirements specified herein. The material shall be from sources approved by the City and shall consist of durable crushed stone that has been screened to the required gradation.

Flexible base materials shall be tested according to the following TxDoT standard test methods:

a) Preparation for Soil Constants and Sieve Analysis	Tex-101-E
b) Liquid Limit	Tex-104-E
c) Plastic Limit	Tex-105-E
d) Plasticity Index	Tex-106-E
e) Sieve Analysis	Tex-110-E
f) Wet Ball Mill	Tex-116-E
g) Triaxial Test	Tex-117-E, Part II

Base material shall be stockpiled after crushing, then tested by the City's designated laboratory and approved by the Engineer or designated representative prior to being hauled to the Project.

The material shall be well graded and shall meet the following requirements:

Sieve Designation		Other Requirements	% Retained	
US	SI			
1 3/4"	45 mm		0	
7/8"	22.4 mm		10-35	
3/8"	9.5 mm		30-50	
#4	4.75 mm		45-65	
#40	425 μm		70-85	
		Maximum Plasticity Index		10
		Maximum Wet Ball Mill		42
Maximum Increase in passing #40 (425 μm) sieve from Wet Ball Mill Test			20	

Minimum compressive strength when subjected to the triaxial test shall be 35 psi at 0 psi lateral pressure [240 kiloPascal (kPa) at 0 kPa lateral pressure] and 175 psi at 15 psi lateral pressure [1200 kiloPascal (kPa) at 100 kPa lateral pressure].

B. Asphaltic Material

Prime Coat. Prime Coat shall conform to the requirements of Standard Specification Item 306S, "Prime Coat", except for measurement and payment.

CITY OF AUSTIN PURCHASE
SPECIFICATION FOR SURFACE
ROCK AND 3X5 ROCK

1.0 SCOPE AND CLASSIFICATION

1.1 Scope

The Vendor shall provide the service requested by the on-site City of Austin personnel and satisfy the environmental and working conditions of the project. All the rock materials used shall comply with all City, State and Federal laws, municipal ordinances and regulations.

1.2 Classification

The surface rock and 3x5 rock specified herein shall be in compliance with all the Solicitation documents and specifications.

2.0 VENDOR REQUIREMENTS

2.1 Specifications

a. Surface Rock

Coarse aggregates shall be composed of sound and durable particles of uncrushed gravel, crushed stone or crushed slag; free from frozen material or injurious amounts of salt, alkali, vegetable matter or other objectionable material either free or as an adherent coating. It shall not contain more than .025 percent of weight of clay lumps, nor more than 1.0 percent by weight of shale nor more than 5 percent by weight of laminated and or friable particles when tested in accordance with TXDOT Test Method Tex-413-A. It shall have a wear rate of not more than 35 percent when in accordance with TXDOT Test method TEX Method TEX-410-A.

Unless otherwise indicated, coarse aggregate shall be subjected to 5 cycles of the soundness test conforming to TXDOT Test Method TEX-411-A. The loss shall not be greater than 12 percent when sodium sulfate is used or18 percent when magnesium sulfate is used.

Coarse aggregate shall be sufficiently washed to produce a clean, dust free surface. The Loss by Decantation (TXDOT Test Method TEX-406-A), plus allowable weight of clay lumps, shall not exceed 1 percent.
Texas Department of Transportation Standard Specifications for Construction of Highways and Bridges Aggregate Type C (gravel, crushed slag or crushed stone) shall be ¾" to 1-1/2" in accordance with the gradation requirements given in Table 1.

Sieve Size	Percentage (%) of Materials Retained
2"	0
1-1/2"	0-10
1"	45-80
3/4"	85-100
3/8"	95-100

Table 1: Gradation Requirements

b. 3"x5" Hard Stone Limestone Rock

CITY OF AUSTIN PURCHASE
SPECIFICATION FOR SURFACE
ROCK AND 3X5 ROCK

Coarse aggregates shall be composed of sound and durable particles of uncrushed gravel, crushed stone or combinations thereof; free from frozen material or injurious amounts of salt, alkali, vegetable matter or other objectionable material either free or as an adherent coating. It shall not contain more than 0.25 percent of weight of clay lumps, nor more than 1.0 percent by weight of shale nor more than 5 percent by weight of laminated and/or friable particles when tested in accordance with TXDOT Test Method Tex-413-A. It shall have a wear of not more than 40 percent when in accordance with TXDOT Test method TEX Method TEX-410-A.

Unless otherwise indicated, coarse aggregate shall be subjected to 5 cycles of the soundness test conforming to TXDOT Test Method TEX-411-A. The loss shall not be greater than 12 percent when sodium sulfate is used or 18 percent when magnesium sulfate is used.

Coarse aggregate shall be sufficiently washed to produce a clean, dust free surface. The Loss by Decantation (TXDOT Test Method TEX-406-A), plus allowable weight of clay lumps, shall not exceed 1 percent.

Unit Weight:

2,400 lbs. per cubic yard

Materials:

Aggregate for construction shall conform to the following gradation:

Table 1: Aggregate Gradation Chart

(TEX 401-A, % Retained per sieve)

US 5inc (SI 125 mm)	US 3 inch (SI 75mm)
0	100